This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1.   (Currently Amended) A method for managing requests to an Input/Output (I/O) device, comprising:

queuing I/O requests directed to the I/O device;

determining whether a number of queued I/O requests exceeds a threshold;

~~if the number of queued I/O requests exceeds the threshold, then~~ calculating a coalesce limit <u>in response to determining that the number of queued I/O requests exceeds the threshold</u>;

coalescing a number of queued I/O requests not exceeding the calculated coalesce limit into a coalesced I/O request; and

transmitting the coalesced I/O request.

2.   (Original) The method of claim 1, wherein the calculated coalesce limit dynamically varies based in part on the number of queued I/O requests.

3.   (Original) The method of claim 2, wherein calculating the coalesce limit includes dividing the number of queued I/O requests by an interval.

4.   (Original) The method of claim 1, wherein coalescing the queued I/O requests comprises:

determining a maximum number of queued I/O requests up to the coalesce limit that are directed to data stored at sequential locations, wherein the determined I/O requests are coalesced into the coalesced I/O request, and wherein all the coalesced I/O requests are directed to data stored at sequential locations.

5.   (Original) The method of claim 1, wherein I/O requests are queued in a first queue or a second queue, wherein determining whether the number of queued I/O requests exceeds the threshold comprises determining whether a number of I/O requests in the second

queue exceeds the threshold, and wherein coalescing the number of queued I/O requests

comprises coalescing I/O requests from the first queue.\

6.   (Original) The method of claim 5, further comprising:

adding the transmitted coalesced I/O request to the second queue.

7.   (Original) The method of claim 5, wherein the first queue is maintained by a

device driver in a computer memory and the second queue is implemented in a controller of the

I/O device.

8.   (Original) The method of claim 7, wherein the controller comprises a storage

controller and the I/O device comprises a storage device.

9.   (Original) The method of claim 5, further comprising:

determining whether there are at least two I/O requests in the first queue after

determining that the number of requests in the second queue exceeds the first queue, wherein I/O

requests from the first queue are only coalesced if there are at least two I/O requests in the first

queue.

10.   (Original) The method of claim 1, further comprising:

transmitting one I/O request from the queue if the number of queued I/O requests does

not exceed the threshold.

11.   (Currently Amended) A system for managing requests to a storage device,

wherein a storage controller manages access to the storage device, comprising:

a processor;

a memory device accessible to the processor; and

a device driver executed by the processor, wherein the device driver when executed

causes operations to be performed, the operations comprising:

(i) queue I/O requests directed to the storage device in the memory device;

(ii) determine whether a number of queued I/O requests exceeds a threshold;

(iii) ~~if the number of queued I/O requests exceeds the threshold, then~~ calculating a coalesce limit in response to determining that the number of queued I/O requests exceeds the threshold;

(iv) coalescing a number of queued I/O requests not exceeding the calculated coalesce limit into a coalesced I/O request; and

(v) transmitting the coalesced I/O request.

12.   (Original) The system of claim 11, wherein the calculated coalesce limit dynamically varies based in part on the number of queued I/O requests.

13.   (Original) The system of claim 12, wherein calculating the coalesce limit includes dividing the number of queued I/O requests by an interval.

14.   (Original) The system of claim 11, wherein coalescing the queued I/O requests comprises:

determining a maximum number of queued I/O requests up to the coalesce limit that are directed to data stored at sequential locations, wherein the determined I/O requests are coalesced into the coalesced I/O request, and wherein all the coalesced I/O requests are directed to data stored at sequential locations.

15.   (Original) The system of claim 11, further comprising:

a first queue in the memory device, wherein the storage controller includes a second queue, wherein determining whether the number of queued I/O requests exceeds the threshold comprises determining whether a number of I/O requests in the second queue exceeds the threshold, and wherein coalescing the number of queued I/O requests comprises coalescing I/O requests from the first queue.

16.   (Original) The system of claim 15, wherein the operations performed when executing the device driver further comprise:

determine whether there are at least two I/O requests in the first queue after determining that the number of requests in the second queue exceeds the first queue, wherein I/O requests from the first queue are only coalesced if there are at least two I/O requests in the first queue.

17.   (Original) The system of claim 11, wherein the operations performed when executing the device driver further comprise:

transmit one I/O request from the queue if the number of queued I/O requests does not exceed the threshold.

18.   (Currently Amended) An article of manufacture comprising a device implementing code for managing requests to an Input/Output (I/O) device, wherein the code causes operations to be performed, the operations comprising:

queuing I/O requests directed to the I/O device;

determining whether a number of queued I/O requests exceeds a threshold;

if the number of queued I/O requests exceeds the threshold, then calculating a coalesce limit in response to determining that the number of queued I/O requests exceeds the threshold;

coalescing a number of queued I/O requests not exceeding the calculated coalesce limit into a coalesced I/O request; and

transmitting the coalesced I/O request.

19.   (Original) The article of manufacture of claim 18, wherein the calculated coalesce limit dynamically varies based in part on the number of queued I/O requests.

20.   (Original) The article of manufacture of claim 19, wherein calculating the coalesce limit includes dividing the number of queued I/O requests by an interval.

21.   (Original) The article of manufacture of claim 18, wherein coalescing the queued I/O requests comprises:

determining a maximum number of queued I/O requests up to the coalesce limit that are directed to data stored at sequential locations, wherein the determined I/O requests are coalesced

into the coalesced I/O request, and wherein all the coalesced I/O requests are directed to data stored at sequential locations.

22.   (Original) The article of manufacture of claim 18, wherein I/O requests are queued in a first queue or a second queue, wherein determining whether the number of queued I/O requests exceeds the threshold comprises determining whether a number of I/O requests in the second queue exceeds the threshold, and wherein coalescing the number of queued I/O requests comprises coalescing I/O requests from the first queue.

23.   (Original) The article of manufacture of claim 22, wherein the operations further comprise:
        adding the transmitted coalesced I/O request to the second queue.

24.   (Original) The article of manufacture of claim 22, wherein the first queue is maintained by a device driver in a computer memory and the second queue is implemented in a controller of the I/O device.

25.   (Original) The article of manufacture of claim 24, wherein the controller comprises a storage controller and the I/O device comprises a storage device.

26.   (Original) The article of manufacture of claim 22, wherein the operations further comprise:
        determining whether there are at least two I/O requests in the first queue after determining that the number of I/O requests in the second queue exceeds the first queue, wherein I/O requests from the first queue are only coalesced if there are at least two I/O requests in the first queue.

27.   (Original) The article of manufacture of claim 18, wherein the operations further comprise:
        transmitting one I/O request from the queue if the number of queued I/O requests does not exceed the threshold.

28.   (Previously Presented) The article of manufacture of claim 18, wherein the device comprises a computer readable medium or a hardware component.